



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/658,964      | 09/09/2003  | Dale A. Sylvan       | 202241-0028         | 3142             |

8968 7590 05/25/2005

GARDNER CARTON & DOUGLAS LLP  
ATTN: PATENT DOCKET DEPT.  
191 N. WACKER DRIVE, SUITE 3700  
CHICAGO, IL 60606

EXAMINER

KRAMER, DEVON C

ART UNIT PAPER NUMBER

3683

DATE MAILED: 05/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/658,964

Applicant(s)

SYLVAN ET AL

Examiner

Devon C Kramer

Art Unit

3683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 May 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 5/6/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Continued Examination Under 37 CFR 1.114***

1) A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/6/05 has been entered.

### ***Claim Rejections - 35 USC § 103***

2) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3) Claims 1-2, 6-9, 14-15 and 17-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirai et al (6155386) in view of Summa (3917042).

In reference to claims 1, 15, 17-20, Hirai et al teaches a braking system for a shaft (12) mounted for rotation, the braking system comprising: a brake disc (4) coupled to the shaft for rotation therewith, the disc including a disc face having a disc contact surface (5); a brake plate (3) mounted to be relatively stationary, the brake plate including a plate face positioned substantially parallel and adjacent to the disc face, a

Art Unit: 3683

spring (6) biasing the plate face against the disc face, a coil (2) that is powered to create a magnetic field to move the brake disc between an engaged and retracted position.

Hirai et al lacks the teaching of the plurality of plateaus and recesses on both the brake disc and the brake plate. Please see the rejection of claim 2 below for the specific angle limitation.

Summa teaches a plurality of plateaus, ramps and recesses on engaging surfaces (figures 6-10), which are capable of use in brakes.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the contacting disc and plate surfaces of Hirai et al with the plurality of plateaus and recesses as taught by Summa in order to positively lock the plate to the disc in order to prevent further relative motion for quick engagement and disengagement. (See Summa col. 1 lines 1-7)

In reference to claims 2, 6, 14 Summa is silent to the angle of the ramps.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the ramps of Summa with an angle of 10 degrees relative to the disc face merely because it would have been a design choice based on the materials used and the force desired to be absorbed by the ramps. Further, please note that it would have been obvious to make the ramp angles 10 degrees since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Art Unit: 3683

IN re claims 7 and 21, please see the combination of the rejection of claim 1 and 2 above.

In re claims 8-9, Hirai et al as modified by Summa teaches an equal number of disc and plate plateaus angled at the same angle. (see figure 10 of Summa)

I  
4) Claims 3-5, 10-11, 13 and 16, are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirai et al (6155386) in view of Summa (3917042) and further in view of Prasse et al (6112873).

In re claims 3, 10, 13, and 16, the brake of Hirai et al as modified by Summa lacks the exact number of ramps and plateaus claimed.

Prasse et al teaches a small number of ramps and plateaus (figure 1). Please note that Prasse et al is used as a reference because of the teaching of a limited number of ramps and plateaus.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the ramps and plateaus of Hirai et al as modified by Summa with a smaller number of ramps and plateaus as taught by Prasse et al since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233. Providing exactly three ramps and plateaus is design choice.

Art Unit: 3683

In reference to claims 4-5, and 11, Hirai et al as modified by Summa and further modified by Prasse et al are silent to the angle of the ramps.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the ramps of Hirai et al as modified Summa and further modified by Prasse et al with an angle of 10 degrees relative to the disc face merely because it would have been a design choice based on the materials used and the force desired to be absorbed by the ramps. Further, please note that it would have been obvious to make the ramp angles 10 degrees since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

***Response to Arguments***

5) Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection.

6) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Devon C Kramer whose telephone number is 571-272-7118. The examiner can normally be reached on Mon-Fri 8-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor can be reached on 571-272-7095. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3683

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Devon C Kramer  
Examiner  
Art Unit 3683

DK

**DEVON C. KRAMER**  
**PATENT EXAMINER**

*Devon C. Kramer*  
5/19/05